

March 2007

CHAPTER 2.2.4.

**INFECTION WITH MARTEILIA REFRINGENS**

Article 2.2.4.1.

For the purposes of the *Aquatic Code*, infection with *Marteilia refringens* means infection only with *Marteilia refringens*.

Methods for conducting surveillance, diagnosis and confirmatory identification of infection with *Marteilia refringens* are provided in the *Aquatic Manual*.

Article 2.2.4.2.

**Scope**

The recommendations in this Chapter apply to: European flat oyster (*Ostrea edulis*), Australian mud oyster (*O. angasi*), Argentinean oyster (*O. puelchana*) and Chilean flat oyster (*O. chilensis*), ~~as well as~~ blue mussel (*Mytilus edulis*) and Mediterranean mussel (*M. galloprovincialis*). These recommendations also apply to any other *susceptible species* referred to in the *Aquatic Manual* when traded internationally.

Article 2.2.4.3.

**Commodities**

1. When authorising the importation or transit of the following *commodities*, the *Competent Authorities* should not require any *Marteilia refringens* related conditions, regardless of the *Marteilia refringens* status of the *exporting country, zone or compartment*:

- a) For the species referred to in Article 2.2.4.2. being used for any purpose:
  - i) commodities treated in a manner that kills the host (and thereby inactivates the disease agent) e.g. commercially sterile canned or pasteurised products or other heat treated products;
  - ii) ~~gametes, eggs and larvae;~~
  - iii) biological samples preserved for diagnostic applications in such a manner as to inactivate the disease agent.
- b) All commodities from *Crassostrea gigas*, including the live aquatic animal.
- cb) The following *commodities* destined for human consumption from the species referred to in Article 2.2.4.2. which have been prepared and packaged for direct retail trade in such a way as to minimise the likelihood of alternative uses:
  - i) chemically preserved products (e.g. smoked, salted, pickled, marinated, etc.);

- ii) ~~non-commercially sterile products (e.g. ready prepared meals) that have been heat treated in a manner to ensure the inactivation of the parasite;~~
- iii) off the shell (chilled or frozen) ~~packaged for direct retail trade;~~
- iv) half-shell (chilled).

e) ~~All commodities from *Crassostrea gigas*, including the live aquatic animal.~~

For the *commodities* referred to in point 1b), Member Countries should consider introducing internal measures to prevent the *commodity* being used for any purpose other than for human consumption.

2. When authorising the importation or transit of *commodities* of a species referred to in Article 2.2.4.2., other than *commodities* referred to in point 1 of Article 2.2.4.3., the *Competent Authorities* should require the conditions prescribed in Articles 2.2.4.7. to 2.2.4.11. relevant to the *Marteilia refringens* status of the *exporting country*, *zone* or *compartment*.
3. When considering the importation/transit from an *exporting country*, *zone* or *compartment* not declared free of infection with *Marteilia refringens* of a *commodity* from bivalve species not covered in Article 2.2.4.2. ~~(especially those the other species of the genera *Ostrea* and *Mytilus*)~~ nor in point 1e)b) of Article 2.2.4.3. ~~but which could reasonably be expected to be a potential *Marteilia refringens* vector,~~ the *Competent Authorities* should conduct an *risk analysis* in accordance with the recommendations in the *Aquatic Code* of the risk of introduction, establishment and spread of *Haplosporidium nelsoni*, and the potential consequences, associated with the importation of the *commodity* prior to a decision. The *exporting country* should be informed of the outcome of this assessment.

#### Article 2.2.4.4.

##### *Marteilia refringens* free country

A country may make a *self-declaration of freedom* from *Marteilia refringens* if it meets the conditions in points 1, 2, 3 or 4 below.

If a country shares a *zone* with one or more other countries, it can only make a *self-declaration of freedom* from *Marteilia refringens* if all the areas covered by the shared water are declared *Marteilia refringens* free zones (see Article 2.2.4.5.).

1. A country where none of the *susceptible species* referred to in Article 2.2.4.2. is present may make a *self-declaration of freedom* from *Marteilia refringens* when *basic biosecurity conditions* have been continuously met in the country for at least the past 3 years.

OR

2. A country where any *susceptible species* referred to in Article 2.2.4.2. is present but there has never been any observed occurrence of the *disease* for at least the past 10 years despite conditions – in all areas where the species are present – that are conducive to its clinical

expression, as described in Chapter 2.2.4. of the *Aquatic Manual*, may make a *self-declaration of freedom* from *Marteilia refringens* when *basic biosecurity conditions* have been continuously met in the country for at least the past 3 years and infection with *Marteilia refringens* is not known to be established in wild populations.

OR

3. A country where the last known clinical occurrence was within the past 10 years, or where the *infection* status prior to *targeted surveillance* was unknown, ~~for example~~ (e.g. because of the absence of conditions conducive to clinical expression, as described in Chapter 2.2.4. of the *Aquatic Manual*), may make a *self-declaration of freedom* from *Marteilia refringens* when:
  - a) *basic biosecurity conditions* have been continuously met for at least the past 3 years; and
  - b) *targeted surveillance*, as described in Chapters 1.1.4. and 2.2.4. of the *Aquatic Manual*, has been in place for at least the last 2 of the past 3 years without detection of *Marteilia refringens*.

OR

4. A country that has previously made a *self-declaration of freedom* from *Marteilia refringens* but in which the *disease* is subsequently detected may ~~not~~ make a *self-declaration of freedom* from *Marteilia refringens* again ~~until~~ when the following conditions have been met:
  - a) on detection of the *disease*, the affected area was declared an *infected zone* and a *buffer zone* was established; and
  - b) infected populations have been destroyed or removed from the *infected zone* by means that minimise the risk of further spread of the *disease*, and the appropriate *disinfection* procedures (see *Aquatic Manual*) have been completed; and
  - c) *targeted surveillance*, as described in Chapters 1.1.4. and 2.2.4. of the *Aquatic Manual*, has been in place for at least the last 2 of the past 3 years without detection of *Marteilia refringens*; and
  - d) previously existing *basic biosecurity conditions* have been reviewed and modified as necessary and have continuously been in place for at least the past 3 years.

In the meantime, part of the non-affected area may be declared a free zone provided that ~~it~~ such part meets the conditions in point 3 of Article 2.2.4.5.

Article 2.2.4.5.

### ***Marteilia refringens* free zone or free compartment**

A zone or compartment free from *Marteilia refringens* may be established within the territory of one or more countries of infected or unknown status for infection with *Marteilia refringens*

and declared free by the *Competent Authority(ies)* of the country(ies) concerned if the *zone* or *compartment* meets the conditions referred to in points 1, 2, 3 or 4 below.

If a *zone* or *compartment* extends over more than one country, it can only be declared a *Marteilia refringens* free *zone* or *compartment* if the conditions outlined below apply to all areas of the *zone* or *compartment*.

1. In a country of unknown status for *Marteilia refringens*, a *zone* or *compartment* where none of the *susceptible species* referred to in Article 2.2.4.2. is present may be declared free from *Marteilia refringens* when *basic biosecurity conditions* have been continuously met in the *zone* or *compartment* for at least the past 3 years.

OR

2. In a country of unknown status for *Marteilia refringens*, a *zone* or *compartment* where any *susceptible species* referred to in Article 2.2.4.2. is present but there has never been any observed occurrence of the *disease* for at least the past 10 years despite conditions – in all areas where the species are present – that are conducive to its clinical expression, as described in Chapter 2.2.4. of the *Aquatic Manual*, may be declared free from *Marteilia refringens* when *basic biosecurity conditions* have been continuously met in the *zone* or *compartment* for at least the past 3 years and infection with *Marteilia refringens* is not known to be established in wild populations.

OR

3. A *zone* or *compartment* where the last known clinical occurrence was within the past 10 years, or where the *infection* status prior to *targeted surveillance* was unknown, for example (e.g. because of the absence of conditions conducive to clinical expression, as described in Chapter 2.2.4. of the *Aquatic Manual*), may be declared free from *Marteilia refringens* when:
  - a) *basic biosecurity conditions* have been continuously met for at least the past 3 years; and
  - b) *targeted surveillance*, as described in Chapters 1.1.4. and 2.2.4. of the *Aquatic Manual*, has been in place for at least the last 2 of the past 3 years without detection of *Marteilia refringens*.

OR

4. A *zone* previously declared free from *Marteilia refringens* but in which the *disease* is subsequently detected may not be declared free from *Marteilia refringens* again until when the following conditions have been met:
  - a) on detection of the *disease*, the affected area was declared an *infected zone* and a *buffer zone* was established; and
  - b) infected populations have been destroyed or removed from the *infected zone* by means that minimise the risk of further spread of the *disease*, and the appropriate

*disinfection* procedures (see *Aquatic Manual*) have been completed; and

- c) *targeted surveillance*, as described in Chapters 1.1.4. and 2.2.4. of the *Aquatic Manual*, has been in place for at least the last 2 of the past 3 years without detection of *Marteilia refringens*; and
- d) previously existing *basic biosecurity conditions* have been reviewed and modified as necessary and have continuously been in place for at least the past 3 years.

Article 2.2.4.6.

### **Maintenance of free status**

A country, *zone* or *compartment* that is declared free from *Marteilia refringens* following the provisions of points 1 or 2 of Articles 2.2.4.4. or 2.2.4.5. (as relevant) may maintain its status as *Marteilia refringens* free provided that *basic biosecurity conditions* are continuously maintained.

A country, *zone* or *compartment* that is declared free from *Marteilia refringens* following the provisions of point 3 of Articles 2.2.4.4. or 2.2.4.5. (as relevant) may discontinue *targeted surveillance* and maintain its status as *Marteilia refringens* free provided that conditions that are conducive to clinical expression of infection with *Marteilia refringens*, as described in Chapter 2.2.4. of the *Aquatic Manual*, exist and *basic biosecurity conditions* are continuously maintained.

However, for declared free *zones* or *compartments* in infected countries and in all cases where conditions are not conducive to clinical expression of infection with *Marteilia refringens*, *targeted surveillance* needs to be continued at a level determined by the *Competent Authority* on the basis of the likelihood of *infection*.

Article 2.2.4.7.

### **Importation of live aquatic animals from a country, zone or compartment declared free from *Marteilia refringens***

When importing live *aquatic animals* of species referred to in Article 2.2.4.2. from a country, *zone* or *compartment* declared free from *Marteilia refringens*, the *Competent Authority* of the *importing country* should require an *international aquatic animal health certificate* issued by the *Competent Authority* of the *exporting country* or a *certifying official* approved by the *importing country*.

This *certificate* must certify, on the basis of the procedures described in Articles 2.2.4.4. or 2.2.4.5. (as applicable), whether the place of production of the *commodity* ~~consignment~~ is a country, *zone* or *compartment* declared free from *Marteilia refringens*.

The *certificate* should be in accordance with the Model Certificate in Appendix 4.1.2.

This Article does not apply to *commodities* referred to in point 1 of Article 2.2.4.3.

Article 2.2.4.8.

**Importation of live aquatic animals for aquaculture from a country, zone or compartment not declared free from *Marteilia refringens***

1. When importing, for *aquaculture*, live *aquatic animals* of species referred to in Article 2.2.4.2. from a country, zone or compartment not declared free from *Marteilia refringens*, the *Competent Authority* of the *importing country* should assess the *risk* and, if justified, apply the following risk mitigation measures such as:
  - a) the direct delivery into and lifelong holding of the consignment in biosecure quarantine facilities for;
  2. the continuous isolation of the imported aquatic animals from the local environment;  
and
  - b) the treatment of all effluent and waste material from the processing in a manner that ensures inactivation of *Marteilia refringens*.
2. If the intention of the introduction is the establishment of a new stock, international standards, such as the Code of Practice on the Introductions and Transfers of Marine Organisms of the International Council for the Exploration of the Seas (ICES), should be followed.
3. For the purposes of the *Aquatic Code*, the ICES Code may be summarised to the following main points:
  - a) identify stock of interest (cultured or wild) in its current location;
  - b) evaluate stock health/disease history;
  - c) take and test samples for *Marteilia refringens*, pests and general health/disease status;
  - d) import and quarantine in a secure facility a founder (F-0) population;
  - e) produce F-1 generation from the F-0 stock in quarantine;
  - f) culture F-1 stock and at critical times in its development (life cycle) sample and test for *Marteilia refringens* and perform general examinations for pests and general health/disease status;
  - g) if *Marteilia refringens* is not detected, pests are not present, and the general health/disease status of the stock is considered to meet the *basic biosecurity conditions* of the *importing country*, zone or compartment, the F-1 stock may be defined as free of infection with *Marteilia refringens* or specific pathogen free (SPF) for *Marteilia refringens*;

- h) release SPF F-1 stock from *quarantine for aquaculture* or stocking purposes in the *country, zone or compartment*.

This Article does not apply to *commodities* referred to in point 1 of Article 2.2.4.3.

Article 2.2.4.9.

**Importation of live aquatic animals for processing for human consumption from a country, zone or compartment not declared free from *Marteilia refringens***

When importing, for processing for human consumption, live *aquatic animals* of species referred to in Article 2.2.4.2. from a country, *zone or compartment* not declared free from *Marteilia refringens*, the *Competent Authority* of the *importing country* **assess the risk and, if justified**, require that:

1. the consignment be delivered directly to and held in *quarantine* facilities until processing and/or consumption; and
2. all effluent and waste material from the processing be treated in a manner that ensures inactivation of *Marteilia refringens*.

This Article does not apply to *commodities* referred to in point 1 of Article 2.2.4.3.

Article 2.2.4.10.

**Importation of aquatic animal products from a country, zone or compartment declared free from *Marteilia refringens***

When importing *aquatic animal products* of species referred to in Article 2.2.4.2. from a country, *zone or compartment* declared free from *Marteilia refringens*, the *Competent Authority* of the *importing country* should require that the consignment be accompanied by an *international aquatic animal health certificate* issued by the *Competent Authority* of the *exporting country* or a *certifying official* approved by the *importing country*.

This *certificate* must certify, on the basis of the procedures described in Articles 2.2.4.4. or 2.2.4.5. (as applicable), whether or not the place of production of the consignment is a country, *zone or compartment* declared free from *Marteilia refringens*.

The *certificate* should be in accordance with the Model Certificate in Appendix X.X.X. (under study).

This Article does not apply to *commodities* referred to in point 1 of Article 2.2.4.3.

Article 2.2.4.11.

**Importation of aquatic animal products from a country, zone or compartment not declared free from *Marteilia refringens***

When importing *aquatic animal products* of species referred to in Article 2.2.4.2. from a country, *zone* or *compartment* not declared free from *Marteilia refringens*, the *Competent Authority* of the *importing country* should assess the risk and apply appropriate risk mitigation measures.

This Article does not apply to *commodities* referred to in point 1 of Article 2.2.4.3.

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